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ABSTRACT

This paper provides a broad perspective on theories of emotional development and evaluates the implications of different theories for the practicing teacher. Not only psychoanalytic theories but also many theories of emotion contribute to the understanding of children. For example, behaviorist, experimental, ethological, humanist, developmental, computer simulation and mathematical modeling perspectives have provided insights into emotional experience. While all the theories have deficiencies from an intellectual point of view, some are thought to be better than others from a pragmatic point of view. However, a theory that adequately explains the emotional development of children does not exist. Presently available theories are simplistic and ignore the close connection between emotion, language and cognition. In conclusion, it is suggested that the use of elements of Carl Rogers' theory would lead to healthier emotional behavior in the classroom. Teachers trained to symbolize their emotional experiences accurately will be better prepared to facilitate the emotional development of children. (Author/RH)

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Student Readings No. 1

Emotional Development

Dr. Diane Bretherton

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Emotional Development

Dr. Diane Bretherton

Dr. Diane Bretherton's paper, "Emotional Development", is the first of a series of 'Student Readings' to be published by the Institute of Early Childhood Development.

In the past, courses concerned with the emotional development of children have tended to adopt a psychoanalytic perspective. While Freud and Erikson are important theorists they are not by any means the only theorists who have something to say that is relevant to the emotional functioning of the child. This paper tries to give a broader perspective on theories of emotional development and to evaluate the implications of different theories for the practising teacher. Practising teachers may find the paper arouses their emotions because some current modes of coping with children are questioned.

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OCT 2 8 1980

E M O T I O N A L

D E V E L O P M E N T

Diane Bretherton

November, 1976.

He always
He always wanted to explain things, but no one cared.
So he drew.

Sometimes he would just draw and it wasn't anything.
He wanted to carve it in stone or write it in the sky.
He would lie out on the grass and look up in the sky and it
would be only the sky and the things inside him that needed saying.

And it was after that that he drew the picture.
It was a beautiful picture. He kept it under his pillow and
would let no one see it.
And he would look at it every night and think about it.
And when it was dark and his eyes were closed he could see it still.
And it was all of him and he loved it.
When he started school he brought it with him.
Not to show anyone, but just to have it with him, like a friend.

It was funny about school.
He sat at a square brown desk like all the other square desks and
he thought it would be red.
And his room was a square brown room, like all the other rooms.
And it was tight and close. And stiff.
He hated to hold the pencil and chalk, with his arm stiff and his
feet flat on the floor, stiff, with the teacher watching and watching.
The teacher came and spoke to him.
She told him to wear a tie like all the other boys.
He said he didn't like them and she said it didn't matter.

After that they drew. And he drew all yellow and it was the way
he felt about morning. And it was beautiful.
The teacher came and smiled at him. "What's this?" she said.
"Why don't you draw something like Ken's drawing? Isn't it beautiful?"
After that his mother bought him a tie and he always drew airplanes
and rocket ships like everyone else.
And he threw the old picture away.
And when he lay out alone looking at the sky, it was big and blue,
and all of everything but he wasn't anymore.

He was square and brown inside and his hands were stiff.
And he was like everyone else. All the things inside him that
needed saying didn't need it anymore.
It had stopped pushing. It was crushed.
Stiff.

Like everything else.

This poem was written by a
fourteen year old boy who,
soon after handing it to an
english teacher committed
suicide.

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ABSTRACT

The study of emotions has been neglected in developmental psychology. Emotional development tends to be equated with psychoanalytic theory when, in fact, there are many theories of emotion which contribute to our understanding of children. A number of theories are reviewed and some theoretical gaps are identified. While various deficiencies are evident in each of the theories reviewed some are better than others from a pragmatic point of view. It is argued that acceptance of a wider theoretical foundation would lead to healthier emotional behaviour in the classroom.

EMOTIONAL DEVELOPMENT

SUMMARY

1. The Study of Emotions: Why study emotional development? Definitions of emotion.

2. Theoretical Perspectives on Emotion:

   A. Psychoanalytic: Freud, Erikson, transactional analysis.

   B. Behaviourist: Classical conditioning, operant conditioning, neobehaviourist approach with mediational processes, social learning.

   C. Experimental: James-Lange and Cannon theories, arousal theory, Schachter and Singer's research.

   D. Ethological: Darwin, Lorenz, Konner.

   E. Computer Simulation and Mathematical Modelling: Aldous, and other computer simulations, catastrophic theory.

   F. Humanist: Rogers and other humanists.

   G. Developmental: Bridges.

3. The Emotional Development of Children:
We don't have a satisfactory theory to explain the emotional development of children. Existing theories are simplistic and ignore the close connection between emotion on the one hand and cognition and language on the other. Some characteristics of an adequate theory are discussed.

4. Implications for Early Childhood Education:
Current practice expresses underlying assumptions about the nature of emotion which are Freudian in origin. While all the theories reviewed have inadequacies from an intellectual point of view, some are better than others from a pragmatic point of view. It is suggested that the acceptance of Roger's theory would lead to healthier emotional behaviour in the classroom. Change would need to begin at the tertiary level so teachers could be better prepared for facilitating emotional development in children.

1. THE STUDY OF EMOTIONS

In this paper I describe briefly some of the most important theories of emotion and consider their relevance for our understanding of child development and our practice of early childhood education. This is not a simple task for a great deal of speculation has taken place about emotions, while clear thinking or empirical testing is often lacking. The area of emotions seems to be one in which everyone feels they are an expert. Pronouncement on what is good for a child emotionally is made with great certainty. And yet, the idea of what is desirable to meet children's emotional needs is extremely complex, and the closer I look at this area the more complex it seems to become.

Within the area of developmental psychology, the area of emotions and feelings seems to be something of an academic backwater. The mainstream of psychology has moved on from Freud and the early experimental psychologists to an appreciation of the limitations of both psychoanalytic and simple behaviourist models. Newer approaches have combined more naturalistic, global methods with experimental investigation in a fruitful manner. The rapid growth of cognitive psychology and the contributions of Piaget have helped to establish developmental psychology as both a fruitful and respectable area of study. However, in this growth the investigation of the child as an emotional being has been largely left behind. Curricula for young children may be based on the recent findings of cognitive psychology. In terms of the area of emotions, practice is likely to be based on a few understandings gleaned uncritically from psychoanalysis. Teachers use one theoretical framework for one aspect of development, another framework for a different aspect of the same child's development. Very few have tried to integrate newer theories of emotion into their practice of teaching young children. The responsibility for this does not rest entirely with the teacher as psychologists have placed less emphasis on this area preferring to focus on the more easily investigated cognitive processes.

A further reason for studying emotional development is a practical one. Cooper (1976) published a frequency distribution of handicaps occurring in Victorian kindergartens compiled from Health Department statistics. This table shows that emotional problems form the largest single class of handicap.

TABLE 1

The Types and Numbers of Handicapped Children Enrolled in Pre-schools During 1971-1974*

HANDICAP	Number of Children			
	1971	1972	1973	1974
Emotional and Behavioural Problems (including Hyperactivity)	74	79	104	126
Social Reasons	54	75	79	84
Retardation, immaturity	56	60	52	80
Brain damage	1	3		1
Multiple minimal dysfunction	1	2	3	4
Autism	1	1	1	4
Visual defects	8	3	15	4
Hearing defects	25	18	25	38
Speech and language defects	49	52	62	52
Accident sequelae	2	3	5	1
Burns sequelae				1
Respiratory disorder	1	5	1	3
Asthma				5
Urinary defects	1	5		
Bowel disorders (including colotomy)	1	1		2
Liver disorders			1	
Skin disorders			3	2
Cleft palate	4		2	1
Heart defects	5	8	6	3
Skull defects	1			
Post meningitis and encephalitis sequelae	1			3
Hydrocephaly	1	2	2	1
Down's Syndrome	11	5	16	15
Nonan's Syndrome				1
San Fillipo Syndrome			1	
Turner's Syndrome				1
Moebus Syndrome		1	1	
Chromosome abnormality				1
Dwarfism			2	2
Cerebral Gigantism			1	
Cretin	2			
Thyroid disease	2			1
Precocious puberty				1
Diabetes				1
Cystic fibrosis	1	1	3	1
Hystiocystic Syndrome		1		
Surgery	1	1		
Tumour			1	
Mus dystrophy	1		1	1
Orthopaedic defects (including Congenital hip 1 and Perthe's disease 1)	10	13	14	22
Spina Bifida	14	8	18	20
Cerebral Palsy and Spastic conditions	15	19	23	28
Epilepsy, convulsions and fits	18	15	13	25
Haemophilia			1	1
Leukemia and Neoplasms	5		4	3
Phenylketonuria		2	1	
Coeliac disease	1			
Not specified	7	8	4	10

* This information was obtained from the 1971-1974 annual reports of the Department of Health, Maternal and Child Welfare Branch.

The implication seems to be that we need to look more closely at this area if we are to adequately prepare teachers for the problems they will encounter in their work. It is even possible that the size of this problem area is a reflection of our neglect and failure to come to terms with this difficult area.

I do not try to look at the development of specific emotions but aim to consider and evaluate theories of emotion in order to establish some underlying theoretical perspective. Different theorists use different definitions of emotion and hence confusion may arise and synthesis is difficult. Rapaport (1950) lends some clarity to the situation by suggesting that emotion can be analysed as -

(a) consciously experienced feelings and emotions;

(b) the emotional behaviour observed in man and animals, or

(c) the physiological processes, neural and chemical, which occur during emotional disturbance.

So Rogers (1951), for example, means feeling. Freud means emotional states which must be implied from behaviour such as verbal reports of dreams, verbal responses to associated stimuli and the mistakes of everyday life as the person may be unconscious of his feelings. Similarly the ethological approach views emotion as a cluster of emotionally expressive behaviours such as the set of aggressive behaviours which constitutes "aggression". The physiological level of definition is exemplified in Watson (1930), who sees emotion as a behavioural pattern that involves the muscles and glands. Young (1975), suggests that this view of emotion as peripheral bodily processes has shifted to an emphasis on the regulating processes of the autonomic nervous system and to the investigation of central neural and chemical processes.

Hence, emotion may be seen as involving at least three levels. First, there is a feeling level which involves consciousness. Second, there is capacity for action which is motivated by emotion or a set of acts whose pattern implies an underlying emotion, that is, overt behaviour or action. Third, there is a change within the organism which is not readily observable but is a change of bodily state, that is covert behaviour or reaction. It may be useful to

keep these different meanings in mind when reading through the theorists, as shifts in meaning occur between different theorists.

There are numerous approaches to the understanding of emotions and I have tried to group these into a smaller number of theoretical perspectives. Six perspectives are described with some examples of important theorists to represent each perspective. The listing in each category is not exhaustive, but the categories do represent a classification scheme which aims to cover existing types of theory. The perspectives considered are the psychoanalytic, behaviourist, experimental, ethological, computer simulation and mathematical modelling, and humanist approaches.

2. PERSPECTIVES

A. Psychoanalytic Perspective

The most influential theory of emotion is possibly that of Freud. Freud postulated the idea of unconscious motivation and challenged current belief in the rational nature of man. He believed that man is an emotional animal and that all of our behaviour could be explained in terms of largely unconscious needs and motives if we had sufficient information available. For example, feelings, dreams, slips of the tongue, don't just happen but are caused by our emotional needs. Any behaviour is a reflection of the individual's unconscious motivation and hence can be interpreted to give information about this motivation.

In addition to the conscious and unconscious states, he postulated the idea of the preconscious, which is the area of experience which can be recalled but is not in focus at the present. Data in the preconscious are not repressed because they are emotionally powerful, but are simply pushed from consciousness so the mind can attend to particular items and function effectively.

Freud suggested that the personality develops in the following manner. The infant is born a mass of drives and needs and his behaviour is directed by the pleasure principle. Pleasure is equivalent to gratification of need or to sensual experience. The basic intent of any act, according to Freud, is to maximize pleasure and minimize pain. The part of the personality which is guided by the pleasure principle is termed the id. As the child grows he must

face reality. The part of the personality concerned with control, planning and conforming to reality is termed the ego. Further, as the child grows he incorporates the values and restrictions of his parents and the superego begins to form. Thus the ego, driven by the reality principle, mediates between the pleasure needs of the id and the moral restrictions of the superego to maximize pleasure and minimize pain within the confines of the situation.

The child develops through a number of stages. The first of these is the oral stage. In infancy the mouth is the most sensitive zone. Sucking is the only way the infant has of dealing with any object and his first knowledge of the world is in terms of what objects provide oral satisfaction. The infant does not know that adults exist separately and appreciate his needs and so believes his needs are magically met by his own desire. In the infant's mind the wish becomes equivalent to the act; this is the dominant aspect of infantile thought. In dreams, when the ego is asleep, the id of the adult still uses wishful, magical thinking to fulfil infantile needs. As the infant grows it is impossible to gratify his every need and delay in gratification leads to frustration. When the mother comes to the child she does not always do what he wants her to do. The child feels ambivalent towards his mother and becomes more active in his mode of relating to the world. He bites rather than sucks. Biting serves to incorporate and assimilate. In his mind the child tries to incorporate mother as he did food so she will become a part of him and not leave. Biting also expresses the aggression that the child feels.

By the end of the first year of life the focus has moved away from oral activities to toilet training. The child is able to choose whether or not he will conform to parental expectations. The child sees these expectations as rigid and arbitrary and so begins to see the world as threatening. Hence, he is conservative in his ways. Other traits produced by this period are a taste for collecting things. Because the parents show such concern about collecting faeces, the child thinks that these, and other material possessions, must be valuable. Another value established in this period is concern for meaningless talk. As parents explain and plead over toileting, the child sees adults as talking endlessly about meaningless matters. As the child is just beginning to talk he sees his own sounds as meaningless but comes to value them in any case.

By about three or four years of age, toilet problems are resolved and sensitivity shifts from the anal to the genital area. The child is keen to

explore the world and his own body. Hence there is much masturbation and interest in differences between the sexes at this age. As Freud suggested, boys are threatened with having their penis cut off and anxiety about castration occurs. Girls, he felt, believed they had already lost their penis as a result of some unknown misdeed. Against the background of castration fear the Oedipus complex arises. The boy's first love object was his mother and now at the phallic stage this love acquires sexual overtones. The boy resents his father as a rival and wishes to kill him. However, the father is stronger and the child fears punishment, particularly castration. He solves this emotional conflict by identifying with the father and achieving vicariously the desired relationship with the mother. In doing so he takes on the social and moral values of the father. To satisfy his new superego, the child now smothers his sexual feelings completely and this leads him into the latency stage. This stage for the girl is more complex and Freud felt that it might never be possible to understand women.

The latency stage corresponds to the period in which children spend much of their time with same sex peers. It is marked by a lack of sexuality which does not reappear until adolescence and adulthood. If an individual does not resolve the conflict inherent in each psychosexual stage then he becomes fixated at this stage and does not move on to learn more complex techniques for coping with life. For example, the individual who does not satisfy his oral needs in infancy becomes the adult with an orally ungratified personality. Such a personality is demanding, verbally hostile, prone to fantasize and indulge in oral activities such as eating, drinking, smoking and chewing gum to an excessive degree.

In Freudian theory action is seen as involving the expenditure of psychic energy or libido. The individual may experience conflicting needs or desires, but social prohibitions may prevent the individual from acting to fulfil these needs. This leads to a build up of energy. If the energy remains blocked and no satisfactory outlet is found the person experiences pressure or anxiety. If direct expression is impossible then the person engages in indirect forms of behaviour known as defense mechanisms. These defense mechanisms distort reality for the sake of psychological comfort. They are habits of dealing with situations which originally develop during childhood. Examples of crude defenses from the oral stage are the defenses of denial, withdrawal and fantasy. True defense mechanisms do not develop until the

the phallic stage, when repression occurs as part of the resolution of the Oedipus complex. Repression is the pushing back into the unconscious material that is about to become conscious or stimulate an overt expression. More complex defenses include projection which is attributing one's own undesirable characteristics to others, or displacement which involves expressing the impulse but towards a substitute object.

Erikson's theory of child development can be seen as a reworking of Freudian theory to make it more acceptable. Erikson is perhaps the most influential figure in the field of the emotional development of children. However, social influence over the minds of men and truth are not the same thing. Crews, in his review of Erikson's Life History and the Historical Moment, suggests "Those who dissent from particular ingredients of his ethical vision, or whose wariness is aroused by the coinciding of that vision with educated middle class opinion have already begun to wonder whether he hasn't contrived a shrewd but specious compromise between Freudianism and liberal ideology." p.9.

Erikson is similar to Freud in his use of psychoanalytic methods and techniques for obtaining data, in his acceptance of the idea of unconscious motivation. Like Freud, he accepts the model of personality composing id, ego and superego components. He works, like Freud, from the abnormal to the normal with theory of development being derived largely from clinical observations. Erikson differs from Freud, however, in that he places greater emphasis on the ego or on conscious rational forces. He has a more optimistic view of human nature. Personal and social crises are seen as possibly furnishing opportunities for growth. He works directly with children and has emphasized play as this is an important ego function in childhood. Erikson shows more awareness than did Freud of the importance of social setting and cultural heritage as determinants of behaviour. However, Freud and Erikson share a belief in the intimate interrelationship of biological and psychological phenomena. Erikson takes this idea one step further and sees each man's psychogenic life cycle as a repetition of his evolutionary history. Biological evolution ceases at birth, but psychosocial evolution begins. This idea has been incorporated into the writing of Spock (1957) and hence has reached a wide popular audience. Erikson suggests that development "consists of a series of childhoods which call for a variety of sub-environments depending on the stage which the child has reached and depending also on the environment experienced during previous stages". (1955) p.304. That is, children have different needs at different

stages. At each stage the individual must face and master a central problem or dilemma. The crisis is universal though the individual situation is culturally defined. For example, in our society the infant is usually cared for by its mother. In a kibbutz the infant would spend little time with its mother and the metapelet and peer group are significant others. In both situations the infant is involved in the universal problem of acquiring a sense of trust while overcoming a sense of basic mistrust. The setting differs but the dilemma is invariant.

Erikson postulates eight stages of development which span the human life cycle. In each stage the individual has particular emotional needs. A failure to resolve the basic dilemma of a particular stage affects later adjustment so that, for example, a person who is mistrusting, demanding, and preoccupied with bodily needs may be one who received insufficient care as an infant. Four stages relate to the early childhood period:-

Basic trust vs. mistrust (0-18 months).

At birth the infant has a personality and requires a feeling of physical comfort and minimum experience of fear and uncertainty. Libido or psychological energy is present and is expressed through id processes such as crying, sucking and moving. As these functions become more cortically controlled they become ego functions. While the infant depends totally on external care and control there is no superego. His play reflects the developmental theme of incorporating and holding and the mouth is an important pleasure zone at this stage. The child needs a dependable mother. Frustration cannot be avoided but should be resolved in trust. Children are able to sense the unconscious insecurities and intentions as well as the conscious thoughts and overt behaviours of the parent. Hence, it is more important that the mother should be genuinely loving than that she have particular skills and competencies in child care.

Autonomy vs. shame (18 months - 3 years).

Since toilet training is given emphasis in our society, the child's conflict between holding on and letting go, between moving forward to greater autonomy or back to dependency, tends to focus on sphincter control. All cultures induce some sense of shame and self-doubt as all place limits on individual freedom. The child begins to internalize limits and hence the superego begins to develop.

The child tends to generalize the struggle for autonomy to areas of his life other than toilet training and his activities tend to centre around collecting and hoarding things.

Initiative vs. guilt (3-7 years).

Having learned some measure of conscious control over himself and his environment the individual can move on to widening social and spatial horizons. He is expected to master specific tasks and to take responsibility for himself in the form of caring for his body, his toys, perhaps a younger sibling or a pet. He searches for his own identity and both consciously and unconsciously tests his own skills. This means he intrudes into the sphere of others and their autonomous behaviour may frustrate his intentions. This negates to some extent the previous form of trusting dependency toward adults and gives rise to a sense of guilt. At this stage the id, ego and superego begin to find a mutual balance and future development is directed toward relationships with parents, peers and other human beings. At this stage, too, the child becomes aware of his or her own sexuality and forms a romantic attachment to the opposite sex parent. Erikson sees this almost as a rehearsal for adult life and suggests that the Oedipus complex is resolved by a more appropriate perception of reality and a shift toward relating to those who are closer in age.

Industry vs. a sense of inferiority (7-11 years).

The child finds a place among his peers but is not yet accepted into adult circles. His sense of inferiority stems from the fact that he is an "incomplete" person, that is, a child. He strives to be the best, the strongest, the wittiest or the fastest and wards off failure. His peers are needed for his self-esteem and serve as criteria for measurement of the individual's success, that is, striving is competitive rather than autonomous.

Further stages include the search for identity in adolescence, a sense of intimacy in the young adult who seeks out a sexual mate, the sense of generativity which is related to having children and then, finally, a coming to terms with old age and death which is termed integrity.

It is easy to accept Erikson's theory uncritically simply because the descriptive element seems to fit various observable behaviours. Some of his work has become incorporated in our day to day world view. For example, the identity crisis in adolescence is a concept that has been taken from the exclusive

terrain of the psychoanalyst into the popular media. The idea of stages in adult life is gaining wide acceptance. For example, the work of Sheehy (1975) has popularized this concept. Ideas such as autonomy or guilt seem to be easier to relate to the children we know than do Freud's concepts of infantile sexuality. As Crews (1975) suggests, "It is Erikson who has expanded and most clearly systematized Freud's ideas about early development, making all those zones, modes, modalities and stages look less like crackpot categories than like ordinary observables of childhood." p.9.

However, when the theory is examined more closely, particularly in relation to emotional development, difficulties arise. The stages are designated by terms which would seem to refer to particular emotions. For example, trust, mistrust, guilt, and shame normally refer to emotional states. As terms such as industry, autonomy and initiative are contrasted to these as bipolar opposites we can assume that they designate similar dimensions. How, then, do these fit into the definitions of emotion that have been discussed? It seems clear that Erikson does not mean emotion as consciously experienced feeling. The mistrusting adult, for example, may not be conscious of his mistrust. The trusting adult does not always feel a warm glow of emotion that could be termed trust. Similarly, it would be difficult to categorize these as physiological changes or correlates. This leaves the concept of emotion as a class of behaviour which seems to accord better with Erikson's meaning. The mistrusting adult is an adult who is pre-occupied with bodily needs, is demanding and not easily satisfied in interpersonal relationships, who is apprehensive about future situations and so on. That is, trust is a hypothetical construct which is thought to underly or explain a class of behaviours. However, it is not easy to discover from reading Erikson what the class of behaviours is and inconsistencies occur. For example, Erikson says, "The infant's first social achievement, then, is his willingness to let the mother out of sight without undue anxiety or rage, because she has become an inner certainty as well as an outer predictability." (1968) p.247. That is, the infant has acquired trust when it allows the mother to go away without making a fuss. However, a neonate will allow its mother to go away without protesting. How, then, does the observer decide between "inner certainty", on the one hand and a lack of knowledge that the mother is departing? Without some listing of behavioural indicators it is difficult to establish exactly what is meant by these concepts. Take, for example, autonomy. Let us say that as a kindergarten teacher I spend a great deal of time teaching children

routines and rules of social conduct at the beginning of the year. Then I am able to withdraw and let the children work and play very much on their own. They know where things are kept, what they may and may not do and that they are expected to get on with things independently. Are they, then, or are they not, autonomous? It could be argued that they are autonomous in that they are acting independently and do not require adult supervision. It could also be argued that they are not autonomous in that they have been programmed by me to act in certain ways. That is, autonomy could be the internalization of values so that external control is not necessary or it could be the establishing of personal values that conflict with societal values. The former meaning would, in fact, be the opposite of Laing's concept of ontological autonomy.

Starting from the same theoretical standpoint a somewhat different approach to emotional development has been evolved by Berne (1969). Transactional analysis has its foundations in psychoanalytic tradition but has moved out of the clinical situation into normal educational settings.

Transactional analysis provides a structural framework for understanding interpersonal relationships which can be used by people who have not undergone psychoanalysis, and indeed is simple enough to be used by young children.

The basic ideas of transactional analysis are that there are three ego states, termed the Child, the Adult, and the Parent. True communication with others is to be found in Adult to Adult transactions or interactions. Individuals need recognition, positive feedback, and evidence of being cared for in their interactions with others or they become emotionally unwell. In making decisions they need to take into account the needs of their Child and Parent components as well as their Adult's view of the situation. The individual is born a Child with wishes, needs, and desires which are met by his parents. As he grows some limitations are placed on his behaviour by his parents. For example, as the child is toilet trained his parents make statements about what he should or shouldn't do. These are incorporated by the child and form the basis of the Parent component in his personality. As the child begins to learn language he is able to think rationally and thus his Adult component begins to develop. In this scheme then, development is seen as a process of adding on new bits rather than a process of leaving one stage behind as we pass onto another. Despite Berne's view that transactional analysis is significantly different from psychoanalysis many parallels can be seen. The Child bears a resemblence to the id, the Parent to the superego, the Adult to the ego and the processes of development seem similar. For example, the need to take into account the

Parent in making decisions could equally be seen as a Freudian statement that the superego may be the source of guilt after a decision has been made on rational grounds in accordance with consciously accepted principles. Although the theory seems very similar to me the application does differ. Transactional analysis is designed for normal people to use and concentrates to a much greater extent on interpersonal relationships than does traditional psychoanalysis. It seems to have translated some of the basic concepts of psychoanalysis into a readily digested package and does seem to have gained a first in developing material on emotional growth and human relationships suitable for use with young children. However, this material does not seem to be used in Australian preschools as yet.

B. Behaviourist Perspective

A contrasting view of emotion is provided by behaviourist theorists. A basic tenet of the behaviourist approach is that the data of psychology should be observable behaviours. Hence, emotion as feeling or experience, is not a proper study for psychology. None the less, this school of psychology has contributed a great deal to the understanding of emotions and to our knowledge of how to change emotional behaviour. Basic to the behaviourist position is a belief that most, if not all, behaviour is learned and that most, if not all, of this learning takes place through conditioning. There are two forms of conditioning - classical conditioning as proposed by Pavlov and operant conditioning as described by Skinner.

Pavlov (1927) noticed dogs in his laboratory began to salivate in anticipation of being fed. He began to experiment with stimuli such as a buzzer or bell which do not normally produce salivation. He found that if a stimulus such as the buzzer is paired with the presentation of food a number of times, then a dog will salivate in response to a buzzer. Classical conditioning typically involves reflexive or involuntary behaviour such as salivation, the eye blink reflex, and sucking behaviour of infants. It is, therefore, of particular relevance in accounting for the origin of many emotional responses which have physiological bases.

Watson (1930) illustrated the acquisition of fear by conditioning a young boy Albert to fear a white rat by making a loud noise whenever the rat was presented to the boy. He found that not only did Albert fear the rat, but also that he feared a number of similar objects such as pieces of white fur. That is, he learnt to fear not one specific object but a broad class of objects.

After the fear had been learnt so that Albert whimpered and cried when he crawled away from the rat, Watson began to teach him not to fear the rat. He placed Albert in a warm, comfortable, relaxed position, that is, eating in a high chair and reintroduced the rat, without the loud sound, from a distance. Gradually the rat could be brought closer without eliciting a fear reaction. After a number of days the child could eat while having the rat is close proximity.

Thorndike (1949) believed that a mere pairing of stimulus and response such as the rat and the fear induced by the loud noise was not sufficient explanation of learning. He was interested in the conditions under which a stimulus-response bond was stamped in and maintained that it was the effect of a response that led to learning. Skinner (1953, 1957, 1961) reformulated this idea in terms of reinforcement, and suggested that the bond is between the response and the reward rather than between stimulus and response.

Skinner suggests that when an emitted response or piece of behaviour or, more technically an operant, is followed by a reward the probability that it will be repeated increases. While Skinner accepts that classical conditioning can and does occur, he suggests that most human behaviour is operant behaviour. Writing an essay, going to the beach, doing the garden - these common activities are not specific responses tied to particular stimuli. A reinforcer is any stimulus that increases the probability of a response occurring. A primary reinforcer is a stimulus that is reinforcing without learning. For example, food is a primary reinforcer. A secondary reinforcer is a previously neutral stimulus which has become reinforcing by virtue of being paired with a primary reinforcer. For example, if a light is flashed when food is presented the light will eventually serve as a reward on its own. A generalized reinforcer is one which has been paired with a number of reinforcers in the past: money, praise, prestige are examples of generalized reinforcers. A positive reinforcer is a reward that increases the probability of the behaviour occurring, a negative reinforcer is a reward also, but one that is given by taking away something unpleasant. Negative reinforcement is not the same thing as punishment. Reinforcement increases the probability of a behaviour occurring, punishment aims to decrease the probability of a behaviour occurring. Skinner is interested in relating how rewards are administered to the rate of learning and forgetting or extinction. Operant conditioning is an important form of learning not only as consciously used in behaviour modification but also as unconsciously used

to shape the behaviour of those around us. We tend to reward some behaviours in others, and to persist in those behaviours which others reward.

In relation to our model of emotion, then, classical conditionizers are most pertinent to emotion as covert bodily reactions, whereas operant conditioning relates more directly to overt emotional responses and behaviours, and to the learning of different forms of emotional expression. The fact that emotions can be conditioned does not suggest that all emotion is learnt in this way, or even that all emotion is learnt. Watson began his experiment with the knowledge that Albert feared the loud noise, or at least found it uncomfortable. He was not able to create fear, rather he transferred fear from one stimulus to another class of stimuli. Similarly, Skinner begins with a primary reinforcer such as food which the organism does not need to learn to enjoy. There is some innate basis to the pleasurable/unpleasurable dimension upon which the conditioning process builds. Learning emotions in terms of conditioning is a process of elaboration rather than primal acquisition. Emotional responses may be paired with new stimuli, some forms of emotional behaviour may increase in frequency while others decrease and new forms of emotional expression may be shaped. However, the organism comes to the environment with the potentiality to react to some stimuli as if they are reinforcers while reacting to others as if they are aversive. While Skinner does not admit of anything so elusive as a feeling it seems that his treatment of emotion is mainly a relabelling exercise. A reinforcer can be seen as something which the organism finds pleasurable. Arnold (1968) defined feeling as an evaluation of a stimulus as pleasant or unpleasant. She regards pleasantness and unpleasantness as built in bodily structures that lead a naive organism to evaluate some sensory stimulations as positive and others as negative. Without some such definition of feeling the idea of reinforcement becomes tautological. The reinforcement is that which increases behaviour and we know something is a reinforcer because the behaviour increases.

An example of a neobehaviourist theory of emotion is provided by the work of Osgood. Osgood (1952, 1957) was concerned with measuring the emotional meaning of concepts and developed the semantic differential for this purpose. He defines this emotional meaning in terms of representational mediational processes which are behavioural but not necessarily observable. The word "spider"

is an example of the type of sign which is studied by the semantic differential. Initially a person encounters a stimulus as a physically present creature, as "the visual pattern of hairy legged insect body often encountered in a threat context provided by other humans" (1952) p.205. The stimulus elicits a complex pattern of behaviour which includes autonomic fear reactions. Portions of this total behaviour to the spider become embodied in a representational mediational process. The word "spider" then comes to elicit traces of the behaviour toward spiders, including autonomic reactions. The representational mediational process then acts as a stimulus which elicits overt behaviour such as: "shivering and saying 'ugh', running out of the room where a spider is said to be lurking, and even refusing a job in the South, which is said to abound in spiders". (1952) p.205. There are a number of signs associated with a significate such as the spider. The visual stimulus of the word "spider", the auditory stimulus of the same word spoken and pictures of spiders are all associated with the original object. All of these stimuli produce in us reactions which are similar to those which would occur if the real object were present. The emotional meanings which attach to words and other symbols are acquired through association or classical conditioning. Hence, when we use words they have not only denotative meanings but also connotative meanings which consist in physical changes in the body, although these may be minimal and unobservable. As you read the word "cold" your capillaries may respond by constricting as if to real changes in temperature. The step from the mediational process to overt behaviour allows for instrumental acts to occur.

Not all meanings are acquired from concrete experience in this way, however. A sign may acquire its meaning from association with other signs. Hence, most of us have clear emotional meanings for terms such as "facism" while, perhaps, failing to respond with such intensity to some of the constituent ideas of this ideology. That is, the label itself has emotional impact.

Osgood suggests that these mediational processes are relatively small in number and that they can be linguistically identified. Hence the meaning of the word can be encoded on a semantic differential form:-

SPIDER

good	— — — — — — —	bad
sad	— — — — — — —	happy
weak	— — — — — — —	strong
gentle	— — — — — — —	violent

The subject checks along the scale to show agreement, and strength of agreement along each of the bipolar scales. Through the factor analysis of a number of adjectives such as good/bad, clean/dirty, poor/rich, he finds that three main dimensions apply to the interpretation of concepts such as that signified by the word "spider". These are the evaluative factor which is the good-bad continuum, the potency factor which is the strong-weak continuum and the activity factor which is the active-passive continuum.

Osgood et al (1957) reports a study by Solarz, in which subjects were asked to associate evaluative adjectives such as "good", "sweet" and "nice" and their opposites with approach and avoidence movements. Negative adjectives were readily associated with avoidence movements, positive adjectives were readily associated with approach movements, but learning took longer if the direction of the evaluative term and reaction required conflicted. Hence, there is an association with the evaluative factor and approach-avoidance behaviour.

Some interesting features of Osgood's approach are: that all concepts have emotional meaning even if this is assigned a zero value, and that the emotional meaning of a word derives from our past behaviour toward the object or concept identified by the word. This runs contrary to common sense in that we normally think that the emotional meaning derives from the way in which the object acted upon us, but theoretically has certain advantages in that it suggests that if we can change a person's behaviour then his attitudes and emotional responses will then change. Hence, this notion is congruent with Festinger's (1957) theory of cognitive dissonance and with approaches such as the systematic training of assertiveness skills as a means of altering emotional response described by Smith (1975). A problem with Osgood's approach is his claim that there is an invariant semantic structure within which all people make emotional judgements which is adequately described in terms of three dimensions. This is contrary to the work of Kelly (1955), and contrasts with the phenomenological approach of the humanists. Osgood's simple structure is only obtained through making metric assumptions which do not necessarily have "good fit" with the data. For example, he assumes that something that has attributes at both extremes is neutral, that good and bad cancel one another out. This contrasts with, for example, the catastrophe model described in this paper. Cooney (1969) suggested that his "scale linearity may be an artifact of the measuring technique rather than a reflection of the underlying dimensions of judgement" p.105.

Hebb (1946) devotes attention to the question of what is non-emotional behaviour which implies a dichotomy between irrationally and rationally motivated

acts. Osgood's idea of a continuum seems more fruitful, as does his implicit tenet that language and emotion are closely linked.

Bandura and Walters (1965) are known for their work on social learning. Social learning involves the acquisition of those behaviour patterns which society expects. They suggest there are three main modes of social learning or behaviour control systems. The first system includes reflexes and conditioned reflexes. The second behaviour control system includes the operant conditioning of behaviour, both intentional and unintentional. The third behaviour control system is concerned with central mediational processes or observational learning. Bandura and Walters believe that much of human learning occurs as a result of observing the behaviour of others who are termed models. The model may refer to an actual person or may be a symbolic model derived from books, T.V., religious instruction and so on. The child's imitation of a model may be rewarded through reinforcement by the model as when a mother says "Aren't you a good girl cleaning up just like Mummy does". Or the imitation may be rewarded through reinforcement inherent in the consequences of the behaviour. For example, a teacher may now praise the child's tidy habits. A further, and important, form of reinforcement is vicarious reinforcement. Here the model is rewarded or punished for behaviour and this affects the behaviour of the observers. Bandura set up an experimental situation in which a model behaved aggressively toward a plastic doll. Significant differences in observers' behaviour were noted according as to whether the model was rewarded, punished or ignored. It was as if the children had themselves been rewarded, punished or ignored for carrying out aggressive behaviour. This experiment is also interesting as a demonstration that aggressive behaviour can be learned from watching others: an idea which is of great importance if we consider the models provided by the media for children today. Some factors that affect imitation are the status of the model as perceived by the child, the extent to which the model is seen as competent and controlling resources, as a source of comfort and support or as similar to the self as in modelling peer behaviour.

C. Experimental Perspective

The James-Lange theory of emotion, proposed independently by James (1884) and Lange, suggested that physiological changes are the basis of emotional experience, that emotion is the perception of bodily changes. We are afraid because we run, we are sad because we cry.

As an alternative to the James-Lange theory, Cannon (1927), proposed that emotion is to be explained in terms of the action of the thalamus. Impulses which are of an emotion provoking nature stimulate the cortex to release the thalamus from inhibition. The thalamus, then, he said, discharges to the cortex to produce an emotional experience and to the irscera to produce emotional behaviour. Both these theories led to considerable interest in investigating emotional behaviour. Current work suggests that while the James-Lange theory is inadequate in that there has been little success in finding different responses to accompany different emotions such has love, rage or grief, so is the Cannon theory. First, it has been found that the thalamus is not essential to emotion. Further, it has been found that the influence of cerebral cortex may be excitatory in addition to being inhibitory in emotion. It appears that hypothalamic structures are important in emotional behaviour: direct electrical stimulation of portions of the hypothalamus evokes rage reactions with attack or defensive flight responses. It also appears that the cortex plays an important role not only in the regulation of emotional behaviour but also in the experience of emotions.

Some current researchers have replaced the difficult concept of emotion with the idea of activation or arousal. Lindsley (1951) describes arousal theory. Bodily changes in breathing, heart rates, blood pressure, galvanic skin response (GSR) and so on indicate an aroused state. Activation or arousal theory looks also to electroencephalogram (EEG) records of changes in brain activity. A rhythm faster than the normal alpha rhythm occurs both when an individual is stimulated or in an emotional state. Arousal theory suggests that there is an optimum level of arousal for behavioural efficiency: either highly emotional states or in drowsy, relaxed states, we are not well organized in action. Arousal theory does not explain why we feel one emotion rather than another and an EEG cannot differentiate between different emotions any more than does high blood pressure. Appeal is made to situational factors to explain the differentiation between particular emotions.

In 1949 Moruzzi and Magoun found that electrical stimulation of the reticular formation of the brain stem produces change in EEG rhythms from a relaxed or drowsy pattern to one suggesting alert attention, Young (1975). Damage to this structure led to a dysfunctional response. With stimulation the fast pattern was converted to a slow pattern characteristic of sleep. That is, when the reticular formation is damaged stimulation can put the brain to sleep. Grossman (1967) suggests that subsequent research has tended to confirm the predictions made by arousal theory, particularly the U shaped relationship

between arousal and behavioural efficiency. However, some basic problems remain.

One problem is that the various measures of arousal do not agree with one another well. Another is that it is possible to separate performance from activation. For example, in a study quoted by Cofer (1972), lesions were made in the posterior hypothalamus of cats who then became somnolent. Even when the reticular formation was stimulated and EEG's showed fast waves the cats remained somnolent.

It is possible to study the relationship between arousal states and the experience of particular emotions through the use of drugs. For example, Schachter and Singer (1962) injected subjects with either adrenalin or a placebo but told them they had been injected with a vitamin supplement. Some subjects received warning as to the symptoms they could expect to experience. Others remained ignorant. In the waiting room, supposedly waiting for a test of vision, subjects were given different experimental conditions. One experimental situation was designed to produce euphoria while the other experimental situation included an angry acting stooge posing as a fellow subject disgruntled at being asked to fill in a questionnaire. The results supported expectations in that the informed group did not shift in mood toward anger whereas the misinformed group did so. Symptoms induced by adrenalin were experienced in some people as a euphoria, in others as rage, and in others as simply bodily symptoms with no emotional significance. Thus emotion is a joint product of physiological arousal and a cognitive evaluation of the situation in which the arousal takes place.

D. Ethological Perspective

"Ethology" has been used to describe the naturalistic observation of animal behaviour. This approach is exemplified in the work of Lorenz who is sometimes regarded as the founder of modern ethology. The work of Lorenz (1952, 1966) is, however, part of a developing tradition going back to Darwin. Smith (1974) suggests - "Darwin's theory of evolution and his pioneering work in comparative psychology The Expression of Emotions in Man and Animals (1872) provided a stimulus for zoologists to observe and describe the behaviour of an animal species - just as previously they had observed and described its anatomy, for example - and to speculate on how such behaviours had evolved, and evolved differently in different species." p.85.

Darwin explained emotional behaviour in terms of biological utility. For example, the hostile cat is ready to spring and attack, its bared teeth are ready to bite, its ears are tucked back out of danger. This utilitarian emotional behaviour is termed "seviceable associated habits". A second principle is that of antithesis. The friendly cat is not crouched, has not got bared teech or tucked back ears so her posture communicates that she is not hostile or an enemy. As not all emotional behaviour can be explained in terms of obvious survival value, Darwin introduced a third principle. Behaviours such as laughing, or writhing in agony, are due to the direct action of the nervous system. He believed that there is, in highly emotional states, an overflow of nervous excitation. This overflow produces physiological changes that are outwardly expressed quite apart from the principles of biological utility and antithesis.

Lorenz relies heavily on concepts of genetically determined aspects of behaviour typical to a species. In recent years ethologists have placed greater emphasis on learning and environment and have become more sophisticated in considering the interaction of these with a more experimental approach so that the boundary between ethology and animal psychology is no longer very clear. An example of this approach is that of Harlow's (1971) work on the maternal relationship and future development in Rhesus monkeys.

Recently the ethological approach has been applied to the study of man, and more particularly to the study of children. Examples are the work of Blurton Jones (1972), Bowlby (1969) and Hutt and Hutt (1970a, 1970b).

Some behaviours such as infant babbling and many neonatal reflexes are species specific and, although wide cultural variation occurs there is evidence that certain kinds of human behaviour have invariant bases. For example, although people of different cultures speak different languages there is evidence for the existence of linguistic universals, such as basic grammatical structure, which apply to all languages. Similarly, Smith (1974) suggests - "there is growing evidence that many kinds of human behaviour - such as non-verbal communication (e.g. gestures, facial expressions), social development (characteristic behaviours in attachment, exploration, play and aggression) and social organization (e.g. all-male groups, incest taboos) - have culture-invariant aspects or bases upon which cultural variations are imposed." p.93.

The ethological approach begins with naturalistic observations of behaviour and, hence, can evolve different categories of behaviour or constructs than those which traditional psychology uses. For example, Grant (1969) describes eight different kinds of smile whose functions differ and Ainsworth (1964) describes thirteen patterns of mother-infant attachment behaviours. Attempts have been made to produce a comprehensive list of behaviours. These tend to be very detailed and result in lists of more than 100 behaviour units.

Konner (1972) reports a cross-cultural study which illustrates the use of ethological methodology. He studied Bushmen adult-child, and child-child interactions. In this culture the mother carries her baby in a sling, in direct physical contact, frequently breast feeding him before he cries. Few restrictions are placed on the child in respect, for example, to toilet training or touching things and he may not be weaned until six years of age. Despite this variation from our own culture observation shows important similarities in child development. The infant is born with the same reflexes, these are organized into similar attachment behaviours, and during the second six months fear of strangers develops. Attachment provides a secure base from which exploratory behaviour occurs in both cultures. The infant observes adult activities and rough-and-tumble and gentle-and-tumble play behaviours develop first from adult-child interactions as do aggressive and fighting behaviours. As in our culture there are sex differences in the amount of aggressive behaviour shown. Thus, through differences between the two cultures such as the prominence of nursing in the attachment process in Bushmen mother-child relationships, clear similarities emerged.

As well as introducing new categories of behaviour, ethology allows for different types of explanation. For example, the principle of biological utility does not just apply to the survival of the individual, but also to the survival of the species. Thus, the cry of alarm emitted by a hen as a large bird passes overhead may not enhance her chances of survival, but may ensure the survival of her chicks who respond by running for cover. An infant's behaviour may be viewed as having survival value in that it induces the mother to care for the child.

E. Computer Simulation and Mathematical Modelling

An interesting mode of studying emotional behaviour is to attempt to simulate emotional processes. A programme called Aldous, after Huxley (1932) brings together a number of features of human behaviour. It is able to recognize situations, react according to emotional state, and act. It has the possibility of learning and introspecting. Input is read into the computer as coded descriptions of objects and output is printed out in the form of coded descriptions of responses. The function of the programme is to develop a set of attitudes to objects in the environment identified by a small number of properties. Hence, in psychological terms, it is a S-R model which attempts to simulate mediational processes.

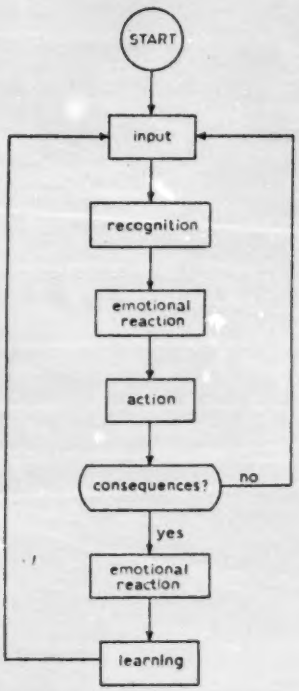
The operation of Aldous is described by Apter (1970). In response to the stimulus relevant information in the computer memory is located to enable recognition. To increase realism random error is programmed on about 6% of trials. Then the object recognized is reacted to emotionally on the basis of both previous experience and current emotional state. Three emotional states, love, anger and fear, are possible. Reaction may involve a combination of these emotions. Then, an overt behavioural action is selected and printed out. If the predominant emotion is love the action is approach, with anger goes attack and fear leads to withdrawal. There is an upper and lower threshold for action. If the emotion is below the threshold Aldous is said to be indifferent and does not respond. If the emotion is above the threshold, Aldous is said to be paralyzed by emotion and unable to respond. If two or three emotions occur with equal intensity above the lower threshold, then conflict behaviour occurs. Finally, a further sub-routine representing Aldous's environment determines the outcome of this action and Aldous may produce an emotional reaction to this consequence and also learn. That is, this outcome and its emotional response will modify future behaviour.

Aldous is programmed to recognize 1000 objects denoted by a number in the range 0000-0999. Each of the three digits in the number also represents a cognitive dimension with ten values on each of three dimensions. For example, the first digit may represent species such as dog, cat, human. The second colour of hair with values such as white, brown, black. The third might represent age. As well as having an emotional reaction to a specific object so denoted, Aldous has higher order emotional attitudes to, for example, the classes of dogs, cats, humans, to the classes of white, brown and black haired creatures;

to objects of different age classes. Further, there is generalization to the intersection of these classes. Hence, each time Aldous has a pleasant encounter with a particular object his emotional attitude to each of the related categories is modified. However, his change of attitude is programmed to be inversely proportional to the amount of previous experience with the object or class of objects. This means that Aldous can make emotional responses to objects not previously encountered and that in areas where he has had much experience his attitudes are more resistant to change. Also, Aldous is more likely to change his attitude to specific objects than to higher order categories. This is because he has had more experience of each category than of each particular object.

TABLE 2

Flow Chart for Aldous



From Apter (1970) p.142.

The environmental outcome of an action is in terms of injury, frustration and satisfaction corresponding to fear, anger and love. A fourth attribute termed power represents the strength of the consequences. The sub-routine also determines whether there are to be additional consequences. For example, if Aldous withdraws from a low power object there would be no further consequences. However, if he approaches an object of great power there would be further consequences. If there are no further consequences the previous attitude is confirmed (the frequency count has increased making the attitude more difficult to modify). If there are further consequences these are translated into corresponding emotions (in this case fear) and the learning sub-routine modifies the relevant attitudes in the permanent memory store. Aldous may introspect in the sense that he may be asked about his attitude to a particular object or class of objects.

Two Aldous's may differ in terms of both innate parameters and past experience. Loehlin has programmed Abstract Aldous to place heavy weight on higher-order memory classifications, Decisive Aldous to act strongly in past emotion and Hesitant Aldous to act weakly on strong emotion. Radical Aldous reacts to current conditions to a greater extent than Conservative Aldous who is more governed by his past.

Another feature of Aldous is that although he is quite simple as a model, and unlike people he only evaluates objects on three dimensions, only a small amount of complexity has to be added for his behaviour to become difficult to predict. When two Aldous's interact to simulate social processes they may give rather life-like results. However, Aldous is limited in that he is always reactive and does not plan ahead. A further limitation is that his parameters are set. Apter suggests that he should be able to change not only his attitudes but also the parameters which govern the acquisition and change of attitudes.

More complex models than Aldous do, however, exist. Abelson (1963) and Colby (1963) have constructed programmes which use mental mechanisms of a Freudian nature and manipulate symbols in the form of words and sentences. Processing can be initiated by an input and hence it is possible to direct the "thoughts" of these models toward particular beliefs and to lower anxiety level: a process which simulates the psychotherapy situation.

Models such as Aldous help to bring emotional behaviour into focus and demonstrates the complexity of emotional processes. Apter suggests that the problem of information storage is one that psychologists working in the field of attitudes and emotional behaviour have not addressed themselves to.

Loehlin worked out that with only 4 emotions and 9 object dimensions with 4 values per dimension 9, 765, 620 memory storage spaces would be required. Apter says - "But human beings presumably have emotional attitudes to a large number of features of the world, and certainly more than 9. How, therefore, does the human nervous system cope with the complexity that is apparently involved?" p.145.

While Guttman (1950) is known for his work on unidimensionality, he was quick to comment that the tendency to work with linear models was inadequate. Oppenhiem (1966) noted that - "For all we know attitudes may be shaped more like concentric circles or overlapping ellipses or three dimensional cloud formations." p.107. A recent innovation suggests that the shape of emotional behaviour may instead be better described as pleats or butterflies. A mathematical model which provides a method for dealing with discontinuous and divergent phenomena and which applies to those situations where gradually changing forces or motivations lead to abrupt changes in behaviour is called catastrophe theory.

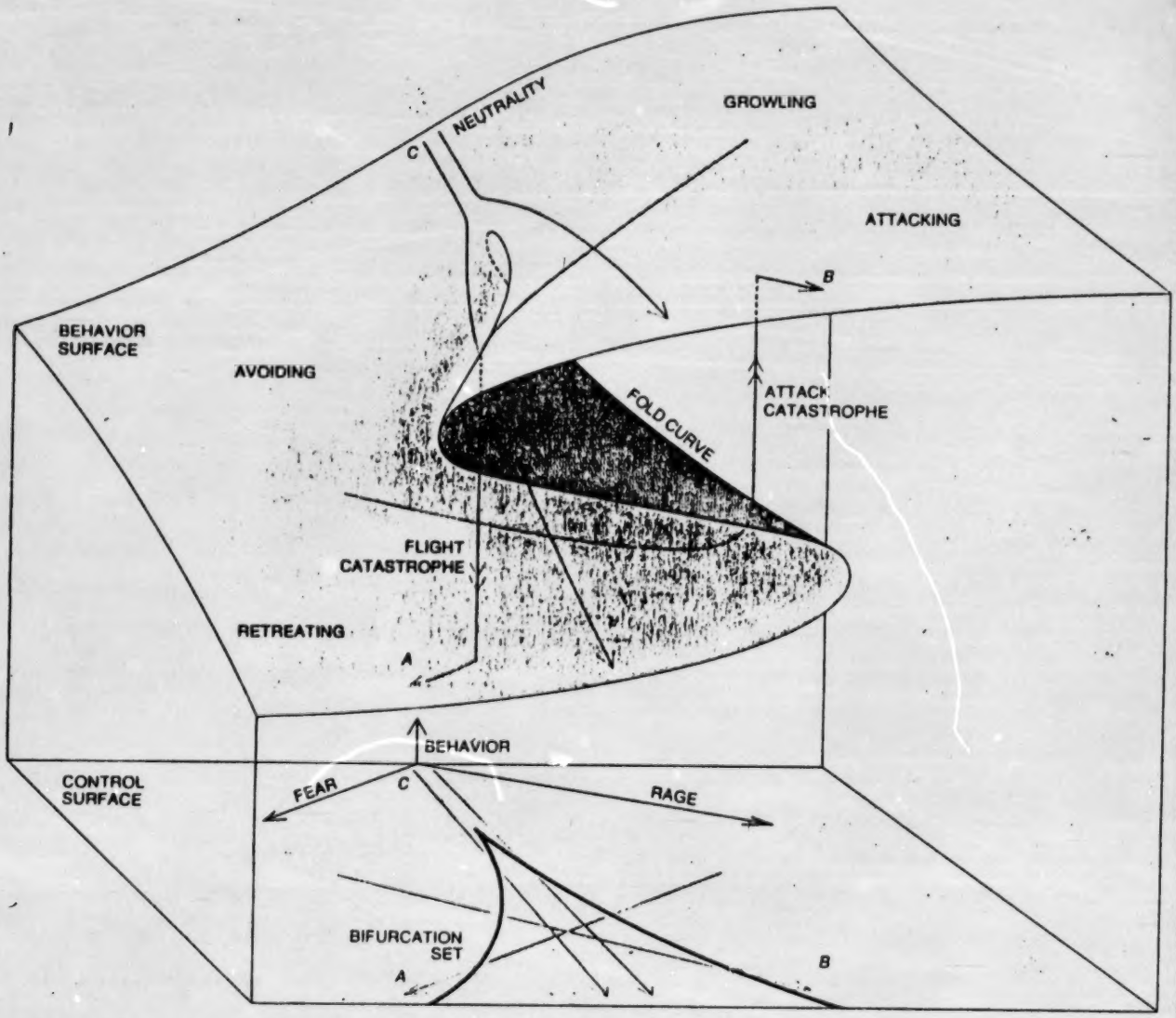
Zeeman (1976) shows how catastrophe theory applies to Lorenz's work on aggression. Lorenz points out that aggression is influenced by two conflicting drives of rage and fear and has proposed that these factors can be measured with some reliability. A dog's rage is correlated with the degree to which its mouth is open or its teeth bared, its fear is reflected by how much its ears are flattened back. By employing facial expression as an indicator we can attempt to predict from mood to behaviour.

If only one emotion is indicated then it is relatively easy to predict aggressive behaviour from rage, flight behaviour from fear. If both rage and fear are present it is not likely that they will cancel one another out, rather the probability of both attack and flight are high. A model drawn from catastrophe theory accounts for this bimodal distribution of probabilities.

The variables, rage and fear are plotted on a horizontal axes, and the behaviour of the dog on a third axis horizontal to the first two. The most aggressive modes of behaviour are assigned the largest values on the axis, the least aggressive the smallest values. For each point on the control surface, that is for each combination of rage and fear, there is at least one most probable behaviour.

TABLE 3

Catastrophe model of Rage & Aggression in Dogs



AGGRESSION IN DOGS can be described by a model based on one of the elementary catastrophes. The model assumes that aggressive behavior is controlled by two conflicting factors, rage and fear, which are plotted as axes on a horizontal plane: the control surface. The behavior of the dog, which ranges from attacking to retreating, is represented on a vertical axis. For any combination of rage and fear, and thus for any point on the control surface, there is at least one likely form of behavior, indicated as a point above the corresponding point on the control surface and at the appropriate height on the behavior axis. The set of all such points makes up the behavior surface. In most cases there is only one probable mode of behavior, but where rage and fear are roughly equal there are two modes: a dog both angry and fearful may either attack or retreat. Hence in the middle of the graph there are two sheets representing likely behavior, and these are connected by a third sheet to make a continuous, pleated surface. The third or middle sheet, shown in gray, has a different significance from the other two sheets: it represents least likely behavior, in this case neutrality. Toward the origin the pleat in the behavior surface becomes narrower, and eventually it vanishes. The line defining the edges of the pleat is called the fold curve, and its projection onto the control surface is a cusp-shaped curve. Because the cusp marks the boundary where the behavior becomes bimodal it is called the bifurcation set and the model is called a cusp catastrophe. If an angry dog is made more fearful, its mood follows the trajectory *A* on the control surface. The corresponding path on the behavior surface moves to the left on the top sheet until it reaches the fold curve; the top sheet then vanishes, and the path must jump abruptly to the bottom sheet. Thus the dog abandons its attack and suddenly flees. Similarly, a frightened dog that is angered follows the trajectory *B*. The dog remains on the bottom sheet until that sheet disappears, then as it jumps to the top sheet it stops cowering and suddenly attacks. A dog that is angered and frightened at the same time must follow one of the two trajectories at *C*. Whether it moves onto the top sheet and becomes aggressive or onto the bottom sheet and becomes submissive depends critically on the values of rage and fear. A small change in the stimuli can produce a large change in behavior: the phenomenon is divergent.

From Zeeman (1976) p.65.

Near the centre of the graph where rage and fear are roughly equal, two probable behaviours exist: one at a lower value such as submission or avoidance, another at a higher level such as snarling and attacking. Between these two points is the least likely behaviour, neutrality. If the behaviour points for the entire control surface are plotted and connected they form a surface termed the behaviour surface. The behaviour surface slopes from withdrawing behaviour up to attacking behaviour, and has the particular characteristic of creating a pleat without creases. To understand how this behaviour surface predicts behaviour, Zeeman considers the reaction of the dog to changing stimuli. Suppose a dog's emotional state is initially neutral, the behaviour is also neutral. If a stimulus increases rage without affecting fear the behaviour changes smoothly following the upward trend of the behaviour surface to more aggressive postures. If the dog's fear increases, while the rage remains elevated, the point moves across the control surface toward the centre. The point representing behaviour follows, but because the slope is not steep behaviour changes only slightly and the dog remains aggressive. As fear continues to increase the behaviour point eventually reaches the edge of the pleat: with any additional increase in fear the sheet vanishes, the behaviour falls onto the lower sheet which represents quite different modes of behaviour. There is a sudden change to a meek attitude. The model thus predicts that if an enraged dog is made progressively more fearful it will suddenly break of its attack and retreat. A small change in the stimulus can produce a large change in behaviour.

Zeeman illustrates how catastrophe models can also be used to explain cathartic release from self-pity and the oscillation between fasting and gorging food in anorexia. Thom, who derived catastrophe theory from topology, showed that for processes controlled by no more than four factors there are seven archetypal or elementary catastrophes. It is likely that the attempt to match emotional behaviour and its underlying variables to these models will be of value.

The contribution of the computer similation and mathematical model approach is, to my mind, the attempt to integrate the different levels of emotion, to explain the relationship of emotional state to emotional behaviour, or to examine the relationship between mood, knowledge of previous consequences, attitudes to classes of objects and innate parameters to the emotional response to an object. Comparatively, psychological theories tend to be simplistic. For example,

Pavlov looked at the association of the stimulus with an emotive reaction (to another stimulus). Skinner looked at the effects of consequences on emotional action. Aldous did both. Osgood looked at the emotional reaction to stimuli in terms of past associations, but does not look at the relationship of emotional reaction to emotional action. While mathematical models are not an explanation they certainly raise some interesting points.

F. Humanist Perspective

Rogers (1951, 1973) like other humanistic psychologists, values the uniqueness of the human individual and emphasizes experience rather than behaviour as the data of psychology. He sets out his theory of personality and behaviour in "Client-centered Therapy", as nineteen propositions. It is worth considering these fully.

> "1. Every individual exists in a continually changing world of experience of which he is the centre." p.483.

This private world or phenomenal field includes all that is experienced, whether this is consciously perceived or not. Consciousness is the symbolization of some of our experiences. Much of our sensory and visceral sensations are not symbolized. However, much of this world of experience is available to consciousness should the individual focus on it or should a need arise. This private world of the individual can only be known, in a complete sense, to the individual himself.

> "2. The organism reacts to the field as it is experienced and perceived. This perceptual field is, for the individual, reality." p.484.

We do not react to reality, but to our perception of it. We live by a perceptual map which is not reality itself. For psychological purposes reality is the private world of individual perceptions. For social purposes reality consists of those perceptions which have a high degree of commonality among various individuals. Perceptions are essentially hypotheses. Many of these are tested, but some remain unchecked.

> "3. The organism reacts as an organized whole to his phenomenal field." p.486.

A basic characteristic of organic life is its tendency toward total organized, goal directed responses. The organism is at all times a total organized system

in which alteration of any part may produce changes in any other part. This applies to physiological as well as psychological processes.

> "4. The organism has one basic tendency and striving - to actualize, maintain and enhance the experiencing organism." p.487.

Particular needs such as for food, safety, and love can be seen as facets of a fundamental need for growth. "The directional trend we are endeavouring to describe is evident in the life of the individual organism from conception to maturity at whatever level of organic complexity. It is also evident in the process of evolution, the direction being defined by a comparison of life low on the evolutionary scale with types of organisms which have developed later, or are regarded as farther along in the process of evolution." p.489.

> "5. Behaviour is basically the goal-directed attempt of the organism to satisfy its needs as experienced, in the field as perceived." p.491.

This applies to organisms in general, and to the infant. The growth of self-concept modifies the operation of this proposition. Behaviour is not caused by something that occurred in the past. Present tensions and needs are the ones which the organism endeavours to reduce or satisfy.

> "6. Emotion accompanies and, in general, facilitates such goal-directed behaviour, the kind of emotion being related to the seeking versus the consummatory aspects of the behaviour, and the intensity of the emotion being related to the perceived significance of the behaviour for the maintenance and enhancement of the organism." p.493.

Emotions fall into two groups, the unpleasant and/or excited feelings and the calm, satisfied emotions. The first group relates to the seeking efforts of the organism, the second to the satisfaction of need or consummatory experience. The first group has the effect of integrating and concentrating behaviour upon the goal. Fear, for example, except when excessive accelerates the organization of the individual toward escape from danger.

> "7. The best vantage point for understanding behaviour is from the internal frame of reference of the individual himself." p.494.

If we could step inside another's body and experience his whole phenomenal field, including experience below the conscious level, then we could understand his behaviour. As this is an unattainable ideal psychology has attempted to develop an external frame of reference without great success. A difficulty with the internal frame of reference arises because our knowledge of another person's framework depends primarily upon communication. Communication is at all times faulty and imperfect. Another problem is that we are largely limited to gaining an understanding of the phenomenal field as experienced in consciousness. The greater the portion of unconscious experience the more incomplete the picture.

> "8. A portion of the total perceptual field gradually becomes differentiated as the self." p.497.

The "self" is not synonymous with the "organism". To the extent that a physical part is under control it is conceived as being part of the self, a foot that has "gone to sleep" is felt as being less part of the self. The fictional character Steve Austin provides an example of how the functional self differs from the structural organism. Steve has various bionic parts, two legs, one arm, and an eye, which are totally integrated into his body. As he is a T.V. character, the camera can take us inside his phenomenal field and so we perceive the environment through his superior vision. We get an idea of how it feels to have super-powers. Steve, the organism, is rather incomplete, lacking most of his limbs and one of his eyes. Steve, as a functioning self, is an updated superman with bionic powers.

It is implied in Rogers' work that the baby does not have a sense of self, but that the individual becomes aware of his own functioning with experience.

> "9. As a result of interaction with the environment, and particularly as a result of evaluational interaction with others, the structure of self is formed - an organized, fluid but consistent conceptual pattern of perceptions of characteristics and relationships of the "I" or the "me" together with values attached to these concepts." p.498.

"10. The values attached to experiences and the values which are a part of the self structure, in some instances, are values experienced directly by the organism and, in some instances, are values introjected or taken over from others, but perceived in a distorted fashion as if they had been experienced directly." p.498.

The infant, interacting with his environment, gradually builds up concepts about himself, about the environment, and about himself in relation to the environment. These concepts are non-verbal and may not be present in consciousness, but they still are implicit guiding principles. The young infant has little uncertainty in valuing, things are liked or disliked. Soon social experiences occur. One of the early and most important aspects of the self-experience of the normal child is that of being loved by his parents. He enjoys being loved just as he enjoys his freedom of action. Then comes parental attempts to control his behaviour and this represents a threat to his concept of himself as being lovable. The child deals with this by introjecting values. Firstly, he suppresses awareness of the inherent satisfactions of the misbehaviour. Secondly, he distorts the symbolization. Rather than symbolizing accurately - "I perceive my parents as experiencing this behaviour as unsatisfactory", he symbolizes in a manner that preserves the threatened concept of self, but is distorted - "I perceive this behaviour as unsatisfying". Parental attitudes, hence, are experienced not as the attitudes of others but as if based on the evidence of one's own sensory and visceral equipment. The values the infant attaches to experience, hence, become divorced from his own organismic functioning. The values which could be derived from primary sensory and visceral reactions are ignored or permitted to consciousness only in a distorted form. A concept of self based in part upon distorted symbolization has taken their place.

"The self-structure is an organized configuration of perceptions of the self which are admissible to awareness. It is composed of such elements as the perception of one's characteristics and abilities; the percepts and concepts of the self in relation to others and to the environment; the value qualities which are perceived as associated with experiences and objects; the goals and ideals which are perceived as having positive or negative valence." p.501.

The self-structure may be formed without distortion and denial of experience if the parents are able to accept the child's feelings and accept their own feelings that certain behaviours are unacceptable. This leads to a conscious balancing of the elements in a situation and the probable outcomes of specific courses of action. The advantage, as far as psychological health is concerned is "that it would be realistic, based upon an accurate symbolization of all the evidence given by the child's sensory and visceral equipment in this situation." p.502.

"11. As experiences occur in the life of the individual they are either -

a) symbolized, perceived and organized into some relationship to the self,

b) ignored because there is no perceived relationship to self-structure, or

c) denied symbolization or given a distorted symbolization because the experience is inconsistent with the structure of the self." p.503.

"12. Most of the ways of behaving which are adopted by the organism are those which are consistent with the concept of self." p.507.

Denial of needs which are not consistent with self-concept leads to neurotic behaviour. For example, a pilot who conceives of himself as being daring may feel fear when assigned to a dangerous mission. He denies his fear although physiologically he experiences fear and a need to escape. He may adopt behaviours which satisfy his needs and maintain his self-concept by developing an illness or having engine trouble.

"13. Behaviour may, in some instances, be brought about by organic experiences and needs which have not been symbolized. Such behaviour may be inconsistent with the structure of the self, but in such instances, the behaviour is not "owned" by the individual." p.509.

The individual is likely to say - "I wasn't myself" or "I didn't know what I was doing".

"14. Psychological maladjustment exists when the organism denies to awareness significant sensory and visceral experiences, which consequently are not symbolized and organized into the gestalt of the self-structure. When this situation exists there is a basic or potential psychological tension." p.510.

"15. Psychological adjustment exists when the concept of the self is such that all the sensory and visceral experiences of the organism are or may be assimilated on a symbolic level into a consistent relationship with the concept of self." p.513.

Freedom from tension occurs when concept of self is, at least roughly, congruent with all the experiences of the organism. "The sense of autonomy, of self-government, is synonymous with having all experiences available to consciousness." p.515.

"16. Any experience which is inconsistent with the organization or structure of self may be perceived as a threat, and the more of these perceptions there are, the more rigidly the self-structure is organized to maintain itself." p.515.

A mother with a self-concept of being a good mother may deny to consciousness her feelings of anger toward her children and this leads to tension, punitive behaviour toward the child and disowning behaviour such as angry outbursts - "I was not myself", "I had a headache". If she is told by an outside observer that her behaviour is rejecting, she will not assimilate this but will respond defensively by, for example, attacking the conditions of observation, the authority of the observers and so on.

"17. Under certain conditions, involving primarily complete absence of any threat to the self-structure, experiences which are inconsistent with it may be perceived, and examined, and the structure of self revised to assimilate and include such experiences." p.517.

"18. When the individual perceives and accepts into one consistent and integrated system all his sensory and visceral experiences then he is necessarily more understanding of others and is more accepting of others as separate individuals." p.520.

"19. As the individual perceives and accepts into his self-structure more of his organic experiences, he finds that he is replacing his present value system - based so largely upon introjections which have been distortedly symbolized - with a continuing organismic valuing process." p.522.

In recent years there has been a rapid growth of the humanist movement in psychology and it can be difficult to see what it is that the various psychotherapies have in common. This statement by Rogers, however, provides a basic philosophy which is in large part common to the humanists, existentialists and anti-psychiatry movements, and illustrates a common viewpoint underlying diverse methods.

Some propositions, such as propositions one to three, are so basic as to be definitive of the position taken up by the so called third force psychologists. The individual cannot be understood in terms of his reaction to stimuli from the objective world: if there is an objective world it is psychologically unimportant. Nor can the individual be understood by taking him apart and studying stimulus-response patterns as he reacts as a purposive whole. The datum of psychology becomes experience rather than objectively observable behaviour. But if this is contrary to the behaviourist position it is also opposed to the Freudian position. Freud was concerned to explain current conflicts and neuroses in terms of environmental forces that have acted upon the individual in the past. The question could be of the kind "has this individual witnessed a sexual act as a child so we can account for the trauma?" The phenomenological approach is that it is the subjective aspect that is important. Perhaps the individual believes he witnessed a sexual act because he feels traumatized. It is not what happened that is important, but what the individual thinks happened, when we come to account for behaviour.

Further, Roger says, "Behaviour is not caused by something which occurred in the past. Present tensions and present needs are the only ones which the organism endeavours to reduce or satisfy." p.492.

Other propositions are more particular to individual theorists. For example, those propositions particularly concerned with the growth of the self-structure are reminiscent of the work of Laing (1965). Maladjustment arises when the individual builds his self-concept on introjected values, denies his own needs, and fails to develop a sense of ontological autonomy. Another example is the work of Perls (1972). Proposition thirteen talks about behaviour which is not owned by the individual. Gestalt therapy concentrates on the issue of responsibility and aims to help the individual take back the fragmented pieces of behaviour which he does not own. Taking back or owning these behaviours results in the symbolization of organic experiences and needs and the widening of the self-concept. Maslow's (1968) concept of being, needs as well as deficiency needs and the concept of existential guilt can be linked to proposition four. Rogers own characteristic therapy style is dependent on proposition seventeen, which stresses complete absence of any threat to the self-structure as the pre-condition for revision of the self-structure. Interestingly, this seems to me to be one aspect of the philosophy statement which is not intuitively acceptable. For example, it seems to me that under crisis conditions such as a marriage break-up or a severe accident where there is a great deal of threat to the self-structure, people do change their self-structure. However, in less extreme instances, what he says about the development of defensiveness under threat seems to hold true. To accept Rogers' basic philosophy is not necessarily to accept his mode of psychotherapy. I have suggested that many forms of psychotherapy derive from this basic common philosophy. Similarly Rogers stresses the no threat, permissive aspects of personality change in education. One need not agree with his particular translation of this theory into practice while maintaining that most of the basic theoretical structure is sound.

G. Developmental Perspective

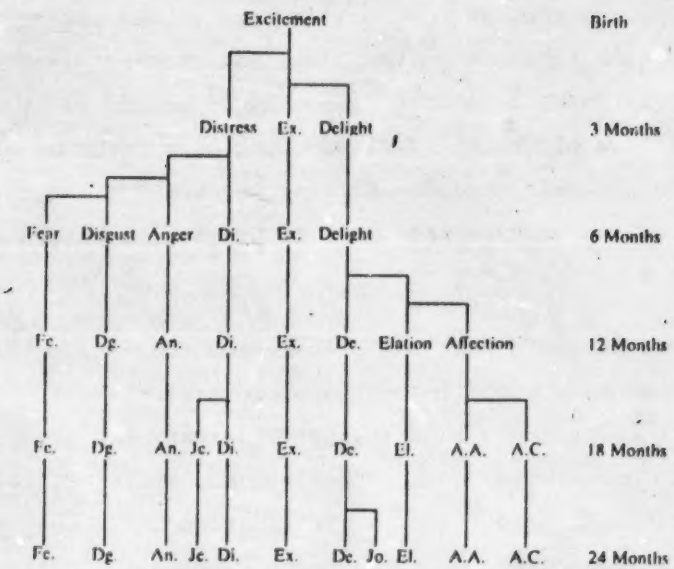
Bridges (1931) described emotional behaviour in the first two years of life. She did not have a particular theory of emotion. She suggested the infant's first emotional response is general agitation produced by various stimulating conditions. Diffuse excitement seen as tensing of the muscles, rapid breathing, jerkey kicking of the legs and sometimes, eyes open as if gazing into the distance. Stimuli which produce this are direct sunlight in

an infant's eyes, suddenly picking infant up and putting him down, a loud noise and so on. By three week's of age, it is possible to distinguish between excitement and distress. Delight or positive emotional excitement appears after distress, usually before three months. This is shown by smiles, laughs, coos and gurgles. More specific forms of emotional behaviour develop during the first two year's of life. She prepared a "schedule of emotional development" based on her observations and discusses in detail the gradual growth of specific forms of emotional behaviour. She points out, that emotional and social development go hand in hand and are intimately connected. The general characteristics of emotional development are a decreasing frequency of intense emotional responses, a transfer of emotional responses to situations that are socially approved, and gradual changes in the nature of overt emotional responses with social pressures. Emotional maturity results in a greater degree of frustration tolerance, decreased frequency of emotional upset, less impulsiveness or explosiveness of behaviour, less overt expression of emotion and in terms of attitudes of self-regard. Hollingsworth (1928) suggests - "In childhood self-pity is unrestrained, the injury to the person strikes at the very centre of the universe." p.210.

Bridges, then suggests that the primary emotion is a general state of excitement and that more specific emotions are differentiated out of this primary state. It is not clear to me that another observational study would replicate her findings. To begin with another observer may evolve different categories, this scheme predates the ethologist's contribution and hence, does not use constructs such as aggression or attachment. Further, I believe fairly specific emotional behaviours can be observed prior to the ages at which Bridges says they occur. For example, a startle response, which it could be argued indicates fear or at least some more specific emotional response than excitement can be observed in utero. Further, this response is subject to conditioning prior to the birth of the baby, see Spelt (1948), so it could be argued that emotional learning takes place prior to birth. Observation of neonates shows, I think, a clear indication of distress when hungry or suffering from pain. This differs from the idea that the baby has only two emotional states at birth: the non-emotional and the aroused state. Similarly, the classification of bodily states of infants into regular sleep, irregular sleep, drowsiness, waking activity, crying and alert inactivity, Wolff (1966), runs contrary to Bridges' scheme. This is an important objection in that the more complex scheme is more readily demonstrated for infants' responses to stimuli vary according to their state.

TABLE 4

Bridge's Model of Emotional Development



Bridges' schematic representation of the differentiation of emotion from general excitement in the newborn to 11 types of emotion at 2 years. *Key:* A.A. = Affection for adults, A.C. = Affection for children, An. = Anger, De. = Delight, Dg. = Disgust, Di. = Distress, El. = Elation, Ex. = Excitement, Fe. = Fear, Je. = Jealousy, Jo. = Joy.

from K. M. B. Bridges, "Emotional Development in Early Infancy," *Child Development*, 3, 324–341. Copyright © 1932, The Society for Research in Child Development, Inc.

From Smart & Smart (1973) p.214.

Hence, in both kinds of sleep infants are insensitive to touch, in alert inactivity response to touch is increased motility and in waking activity touch stimuli result in reduced activity. That is, their response to stimuli is dependent on state and we can observe more qualitatively different states than Bridges allows for. However, Bridge's description of emotional development is presented uncritically in texts on child development and has been taught to generations of student teachers. Its simplistic nature should be clear from the previous discussions of theory. An adequate theory of emotional development would need to be consistent with, or able to refute, alternative theories of emotion. That is, we need to acknowledge the existence of theories of emotion and try to distill from these theories an understanding of children's emotional functioning.

Other developmental approaches to emotion are those of Freud and Erikson, as already described. The developmental theories of Freud and Erikson do not lack theoretical underpinning but are based on premises for which there is little empirical support.

Darwin (1877) also described the development of emotion in the child. His careful observations are of interest but by no means constitute a theory of emotion.

3. THE EMOTIONAL DEVELOPMENT OF CHILDREN

The theories of emotion discussed contain many valuable insights for a theory of the emotional development of children and the complexity and richness of this area of study is apparent. However, it seems to me that no one of these theories provides a sufficient theoretical background for understanding children's emotions. It seems to me that this review of relevant theories has highlighted a number of gaps in our picture of emotional development.

The first gap is suggested by the Aldous programme itself, and by Apter's comments on how it can be improved. This computer simulation tries to integrate emotion as state, with reaction, as modified through learning about the consequences of one's actions. The psychological theories fail to do this. One defines emotion as feeling, another as reaction and yet another as action. One looks at the consequences of behaviour as a modifier of emotional behaviour, another at past associations as the determinants of emotional reaction. Not one looks at the interrelationship of these facets. It seems to me that we are asking the wrong questions. The question of whether emotion is best defined as feeling or physiological change or overtly observable behaviour patterns is not

constructive in that emotion manifestly involves all these facets. Similarly, it is apparent that both association and consequences affect emotional behaviour and experiences. Hence, the important research question seems to me to be that of how these different facets relate together. Under what conditions are consequences of behaviour an important determinant of emotional experience? If an individual is conditioned to a new mode of emotional expression will his feelings follow to become congruent? That is, current theories of emotion fail to deal with the integration of feeling, physiological reaction and emotionally based actions. This question of the integration of information is the more remarkable if we refer back to Aldous and remember how he soon became unable to store enough information if the number of variables he had to evaluate were increased. Real people carry out all of Aldous's processes with remarkable rapidity: not only do they, say, react almost instantaneously to avoid danger they also modify their attitude to the higher order categories that the object exemplifies with remarkable rapidity.

This raises the important question of the relationship between emotion and cognition. Often emotion and cognition are contrasted with one another as if they were opposites. While it is recognized that emotion influences cognitive performance it is not usually acknowledged that cognition is an important influence in emotional behaviour. This seems to me to be the second gap in existing theories of emotion.

Evidence to support this hypothesis, that cognition plays a significant role in emotional reaction, is provided from widely diverse studies and theories as well as from common sense. Personal experience suggests that we react to stimuli as perceived. For example, lying in bed the other night I jerked with fright when I saw a shadow appear on the wall. To react with fright to a shadow one must use cognition both to perceive the shadow and to attach to it some meaning such as "this is a sign of danger, an intruder". I called out loudly, so as to alert others, "Is that you Mike?". "Yes" came back a quiet voice. The added piece of information changed the meaning of the shadow and my fright subsided. A study which suggests that the experience of emotion is related to the way in which a situation is interpreted or understood is that carried out by McPherson and Gray (1976). Subjects were given an construing task based on the personal construct theory of Kelly (1955) and were divided

on the basis of this task into those who used psychological dimensions and those who used objective dimensions. Psychological constructs included reference to personality, emotion and interpersonal relations of people in photographs. Objective constructs referred to physical features, dress and social status. It was found that persons who construe psychologically report experience of feelings such as worry or panic, while those who construe objectively report experience of bodily sensations and physical conditions. The researchers concluded that the type of anxiety symptom experienced is related to cognitive factors, and in particular by the ways in which bodily sensations are appraised and labelled. Apparent lack of emotion may be cognitive and relate to a failure to utilize information from bodily sensations as cues when evaluating emotional situations.

Evidence for a cognitive element in emotional behaviour is found in the work of behaviourists. If an animal is conditioned to respond differently to two stimuli, say a square and a circle, and then the stimuli are progressively made more alike, that is, the circle is made to approximate a square, while the corners of the square are rounded, the animal is unable to discriminate between the stimuli and receives conflicting commands. This leads to an emotional breakdown which is called an "experimental breakdown". The fact that emotions can be acquired through conditioning, that is, may be learned has been discussed. Osgood's theory stresses the cognitive aspects of emotion by using the central concept "meaning" which has both cognitive and emotional components. Behaviour modification affects emotion by teaching new behaviours, that is, through learning.

Experimental psychology provides evidence of a close link. For example, arousal theory suggests that affective reaction is consequent upon a judgement that a given stimulus is too far from the subjective baseline. The study by Schachter and Singer discussed indicated that the cognitive interpretation of social situations influences the way in which visceral reactions are experienced.

Terman (1925) found emotional adjustment in gifted children to be high and it is commonly accepted that retarded children have a high frequency of emotional problems. Bartak and Rutter (1973) found that autistic children show more autistic behaviours when faced with tasks that are too difficult. The observation of hyperactive children shows a similar phenomenon; when faced with a demanding problem the child wants to move on. Hyperactive behaviour can be a result of not knowing how to complete the task in hand. In clinical practice the categories of psychosis and retardation are not as distinct as they are on

paper. It is often difficult to decide whether a child cannot engage in appropriate behaviour (and may be retarded) or will not engage in appropriate behaviour (and may be psychotic). The proportion of children who are referred to psychologists because they have emotional and behaviour problems, or who come before courts for delinquent behaviour who also, have a history of academic failure is high. When I worked as a school psychologist, I noticed that truancy had preceded more serious delinquency - a sequence which is well known - but also that failure to learn to read tended to precede truancy in most cases. That is, in retrospect, one could note that these children were "at risk" many years prior to becoming a serious problem by looking at their academic progress.

Psychoanalytic theory contains an assumption that insight can cure emotional maladjustment. If we understand the origin of our maladjustment, through the process of analysis, it will go away. Rogers sees the symbolization of experience and the acquisition of an appropriate self-concept as the key to emotional well being: both of these are cognitive processes. Ellis (1965) goes so far as to see irrational ideas as the basis for maladjustment. Laing suggests that schizophrenic behaviour makes sense if we accept the individual's conceptual scheme.

This evidence points to a close association between cognition and emotional functioning. It does not, however, state the nature of this relationship. This seems to me to be an area for further research, which has importance that is both theoretical and practical. Theoretical, because it relates closely to the previous problem of how the different facets of emotion are integrated and acted upon. Practical, because it challenges the educational assumption that the business of the teacher is to get on with teaching the child knowledge, and to meet those emotional needs which must be met if the main job of teaching is to be accomplished. Emotion in the classroom tends to be seen as anxiety to be got rid of so the children can get on with their learning, or anger to be controlled so the social group can function smoothly. If, however, as this review of theory suggests, emotion and cognition are closely linked, then there is a large element of learning in emotional functioning and it may be part of the teacher's job to develop this.

The third gap in our theory of emotional development is if we follow through the implications of accepting that cognition plays a significant role in emotional functioning. We know that thought is closely related to language through the work of Luria (1959, 1961), Vygotsky (1962) and Bernstein (1971) and a number of cross-cultural and experimental studies. If cognition is important in emotional reaction, then language is important in emotional reaction. This seems to be overlooked in most of the current theories of emotional development.

Some evidence that emotional functioning and language are closely interrelated can be drawn from diverse theories. First, all forms of psychotherapy involve talking things through. Consciousness raising can be seen as a relabelling process: what was seen as a personal neurosis is now seen as social oppression and the individual takes a more active approach to the problem. Bateson's (1973) double-bind theory of schizophrenia suggests that individuals become schizophrenic because their parents send verbal messages which are in conflict with non-verbal messages. Chomsky (1969) looks at language and emotional behaviour. The Vietnamese were termed "gooks" so as to make them less than human, so that to kill them did not constitute murder. The difficulties inherent in constructing an attitude scale attest to the problems arising from the link between the particular label used and our emotional reaction to it.

Some of the evidence for a close link between cognition and emotion could equally be seen as language and emotion: Rogers' symbolization, Osgood's meaning, the study by McPherson and Gray. Some additional considerations are: that the most extreme emotional disorder of childhood, autism, has equally been classified as being a language disorder, that the first words a child speaks pertain to highly emotionally meaningful objects, that we can use words to manipulate the emotions and behaviour of others.

Though this area has not been fully considered by psychology, the link between language and emotion has long been appreciated by those who seek to understand human experience through writing novels or philosophical works. Billy Budd, as he is tried for murder, explains - "If I had been able to speak, I would not have hit him". In 1984 (as in 1976?) people use double talk to mask ugly connotations: war is called peace to make it more palatable. Steiner (1969) notes a similar mechanism in Germany. "Jude, Pole, Russe came to mean two-legged lice, putrid vermin which good Aryans must squash", as a party manual said, "like roaches on a dirty wall". p.142.

Carlos Castaneda (1974a, 1974b), to become a sorcerer, to cease to experience the world and his emotional reactions to it in the normal way, leans to stop the "internal dialogue".

A further gap in the theories of emotion is that there is not a satisfactory account of the development of emotion. A satisfactory account would not simply be a description, but would give some understanding of underlying processes so that we would know to what extent generalization is possible. Normative studies cannot necessarily be generalized to other cultures, or even to the same culture at other times. A satisfactory account would also consider findings from related areas such as animal psychology, and experimental studies. An adequate theory would consider to what extent innate factors determine emotions and to what extent learning affects emotional functioning. An adequate theory would not simply assume that emotions such as joy and warmth are different and appear at different stages. Given the issues raised by experimental psychology, it would need to show that these are different and explain why they appear at different stages. An adequate theory would not just look at a particular facet such as feelings, physiological reactions, or overt behaviour and identify one of these as being the emotion while ignoring the other aspects. An adequate theory of emotional development would give an account of all levels of emotional functioning, and would consider the effects of cognition and language acquisition on emotional functioning.

4. IMPLICATIONS FOR EARLY CHILDHOOD EDUCATION

The main conclusion of the review of theory was that emotional development is closely related to cognitive and language development, and that there is a large element of learning in emotional functioning. This has important implications for the teacher who is concerned to develop the whole child.

The theory that the teacher accepts, all that has been taught at college and the assumptions she makes, influences the way in which she interacts with the children in her class.

Many preschool teachers do not seem to have faced up to the fact that children are emotional beings. True, they recognize that children have emotions but these are seen as inconvenient obstacles to the real business of the classroom. The children must get rid of their aggression by punching the punching bag or by running outside to let off steam. They must get rid of this aggression

as quickly as possible and get on with the real business of learning.

If, however, we accept the idea of the Plowden report, that the best preparation for adulthood is to live fully as a child, then all of this process of dealing with emotions is part of the learning that takes place. In the situation where the children get rid of their aggression in this way the children are learning a great deal about emotions, and they may not be learning very desirable things. The child is taught: if you have a feeling get rid of it, to get rid of the feeling use a defense mechanism. That is, the child learns that emotions are negative, to be dismissed as quickly as possible and to be dealt with indirectly. He learns to accept that we have a reservoir of negative emotion which must be let out through indirect channels, in socially acceptable forms, so we can function properly. We are not responsible for this emotion, only for trying to control it, for trying to steer it into the right channels to let it out before too much pressure causes the dam walls to burst. The teacher is a model who communicates: when other people have an emotion we must get rid of it as quickly as possible and move on to what is important.

In effect, the teacher is imparting to the children psychoanalytic assumptions about the nature of emotion. Lest there be doubt that the punching bag is a vestige of psychoanalytic thinking let me add that when I discuss this with older teachers, they volunteer the information that when they trained it was the practice to carry in one's pocket a doll which could be instantly produced for the angry child to bite. Let me make it clear that I am not against children punching bags or running around when they feel like some physical exercise. I am not happy, however, if the motivation if to "get rid" of aggression. This seems to me to be a negative and destructive approach which negates the child's feelings and hence his sense of self or ontological autonomy.

This use of psychoanalytic theory is encouraged by courses for student teachers. For example, at the Institute of Early Childhood Development, third year students receive a copy of the paper on aggression by Hendrick (1968). In suggesting what the teacher should do about aggression she recommends - "sublimation" and the provision of "substitute experiences". These are her own words, and they are underlined to stress their value. Some activities she recommends to work off aggression are large muscle activities, punching bags and bobo clowns. I find it ironic that she recommends punching bobo dolls as it was this very activity which was used in the social learning experiments to show that aggression is learnt from observing such behaviour! Of throwing bean bags

she says - "Definite rules should be established about what the bags are thrown at - a large wall, maybe with a face on it, seems best, and the more bean bags, the better." Recently I was told of a teacher who says to children "pretend the doll is your mummy and hit it". The teller of this tale was shocked at this practice, but to me it seems a logical extension of the punching bag. If this shocks us, so should the punching bag.

One problem with the psychoanalytic approach is that it leads to a fear of emotional expression. If every person is a dam of negative emotions we need to be wary of letting out a little lest we release an uncontrollable flood. If we accept this analogy, which I think is a misleading one, then it makes sense that we would handle the emotions of others as if they are dangerous. It also follows that a high degree of control over events will be needed by the teacher. To make sure that emotions don't get out of control she will need to stage manage events to prevent any situations which may have a strong emotional impact: she will put out enough toys so there is no cause for conflict, read stories that are emotionally bland, think up a strategy to feed an isolated child into a group activity, while concealing her motives from the children. A further aspect of her need to control the situation is her need to control her behaviour as "the teacher". She will act out her role regardless of her own feelings.

A broader view of the theory points to some very unhealthy aspects of this approach. I believe that Rogers' theory represents a much healthier framework for a teacher to begin with. While it may need some revision it is a good starting point in that it incorporates the important findings of Freud while leaving behind the destructive aspects of his theory. That is, the idea of unconscious motivation is retained, but there is a shift to a positive view of emotional potential. A further advantage of Rogers' theory as a working basis is that it does not exclude the possibility of other areas such as ethology, and experimental psychology contributing to our understanding. Although it insists that the best vantage point for understanding behaviour is from the individual's internal frame of reference, this is not inconsistent. The findings of scientific psychology are, on the whole, generalizable to groups only, not individuals. A further advantage of Rogers' approach is its approach to the issue of responsibility. A psychology which we use in practical situations must accord with our world view or Weltanshaung.

A Weltanshaung is one's view of the universe, one's total outlook on life, society and its institutions. It is a value system having as its object the whole of what is known or knowable. The psychoanalytic approach does not accord with my Weltanshaung or that of most people in our society. In our society we hold people responsible for their actions: we expect people to honour contracts, pay bills, refrain from spitting in trams and so on. If people choose not to honour contracts or pay their bills, or choose to spit in trams, we confront them with their misdeeds. But if their behaviour is determined by unconscious motivation for which they are not responsible this does not make sense. Similarly, in our culture, and hence in the world view we transmit in schools and preschools, we believe that man is not only created by society, as Freud says, but also creates society. Rogers resolves the issue of responsibility by equating denial of responsibility with illhealth. We are responsible for ourselves in that we are able to symbolize experience and bring it into consciousness. Self-knowledge and conscious choice are human responsibilities. Present needs not past experience are determinants of behaviour. Although past experience may affect present needs, present needs determine action, so we cannot blame our boorishness on our parents or our early childhood experience.

A further objection to the theory of Freud and Erikson as a basis for teaching children is that it is sexist. Freud confessed that he would never understand women and defined their problem as not being male, that is having penis envy. Why not label men as having vagina envy? Similarly, Freud suggested that the main fear of man is castration, that is, being made into a female. Erikson attributes less overt sexuality to developing children but still suggests that they should learn their proper sex roles. The female role he suggests is to be passive and seductive. Erikson also sees children as incomplete adults.

If we accept Rogers' theory as a reasonable working basis for the teacher this does not mean that we have to be completely permissive. To recall an earlier comment on the tenth proposition. The self-structure may be formed without distortion and denial of experience if we are able to accept the child's feelings and accept our own feelings that certain behaviours are unacceptable. While Rogers and Laing are very permissive in their relationships with others, Perls and Ellis are capable of being quite harsh. An acceptance of the humanist position does not mean that one has to be nice all the time. In fact, my criticism of current practice in kindergartens is that in trying to be nice all the time distortion and denial of experience is encouraged.

What then should the preschool teacher do differently to put into practice this philosophy. To go back to the example of the child who is aggressive. A different approach would be to acknowledge and accept the child's feelings. To do this the teacher must feel comfortable in talking about emotions and able to respond with understanding. The child and the teacher can discuss some alternative courses of action and the teacher can use this as a learning situation for the child by suggesting what the probable outcomes of different actions are. The teacher can also express her feelings openly. For example, "I will feel very angry if you mess up other children's games". The child may be allowed to choose. Perhaps he chooses to hit the punching bag or run around outside and the outcome doesn't look very different. However, the process utilizes the incident as a learning situation. It helps the child to learn to express his emotions and make decisions on the basis of emotional information.

It may be argued that this process is possible for older children but involves too much verbal interaction for the younger child. It is my experience, that children differ widely from one another in their capacity to verbalize emotional experience. Age does not necessarily seem to increase this capacity, possibly because we educate children to increased distortion of symbolization. However, some children do not have the verbal capacity to deal with emotional situations in this way. These children need more help from adults in learning to verbalize emotional functioning. The key here is that it is symbolization of experience in consciousness that is central, as well as communication between the teacher and the child.

It may also be argued that children do not have the capacity to act with such maturity. Recent work with infants reveals that we tend to underestimate their competence, Bower (1974). This in itself indicates a need to rethink our ideas about children's emotional functioning.

There are many ways in which a child can symbolize his experience and express his emotion that do not rely initially on words. Painting, clay, acting out a problem with others or with toys, are some of the possibilities. However, I do not think it sufficient to expect the child to do all the work, the teacher needs to draw out the child through questionning just as she would if the experience were intended to facilitate cognitive development. The type of questionning technique will differ, however, as some questions tend to produce a more cognitive response while others elicit more feeling. Cognitively loaded questions such as "What is that?", "Which is bigger?", "Which one is red?", are familiar to the teacher. Emotionally loaded questions such as "Tell me

about your picture", "What is going to happen next?", "How does the boy feel?", "What will his mummy say?", are less familiar to the teacher.

In one sense there are few resources available to the teacher who wishes to embark on a programme that facilitates the emotional growth of her children. In my research I found the following children's books specifically written for such a curriculum: Freed (1971), Freed (1973), and Hendricks and Wills (1975). This is hardly a vast collection. However, in another sense there are many resources for developing a curriculum which facilitates emotional growth. Everything we do has its emotional component, all the things that take place in a preschool or school provide opportunities for emotional learning to occur. The change is not so much in terms of what materials are to be used but more in terms of how they are to be used.

Hence, the focus comes back to the teacher. I have suggested that the teacher needs to respond with understanding and needs to be able to help the child to learn to symbolize his own experience without distortion. She has, herself, probably had a lifetime's experience of distorting the symbolization of experience. The change is not one that can be made simply by deciding to make the correct kind of responses to children. For a start she will have to abandon the safety of this mode of operating. In trying to be "the good teacher", to appear calm when angry, poised when she has had a terrible day, distant when she feels loving, she is contributing to the confusion and distortion that occurs. Consider this behaviour in the light of Bateson's theory of the origin of schizophrenia, or again in terms of social learning theory.

The best way for teachers to learn to facilitate emotional growth in children is for them to begin to look at their own feelings. This idea, too, is part of Rogers' philosophy. As the individual grows so she becomes more accepting of others as separate individuals. The need becomes, initially, one of developing curricula for the education of teachers rather than children.

It is apparent that there are many more theories of emotion than the psychoanalytic ones that are taught to preschool teachers in training and that the curriculum on emotional development needs updating. It also seems to me that there is a need to provide within the curriculum experiences designed to facilitate the emotional growth of student teachers as people.

To refer back to our poem by an anonymous fourteen year old boy: perhaps if the boy had, in his short life, found one teacher who had asked him how he felt, and listened to him explain things, he would have known that not everyone is square and brown inside, and lived.

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